ABSTRACT OF THE DISCLOSURE

A digital camera that combines the functions of the retinal camera and corneal camera into one, single, small, easy to use instrument. The single camera can acquire digital images of a retinal region of an eye, and digital images of a corneal region of the eye. The camera includes a first combination of optical elements for making said retinal digital images, and a second combination of optical elements for making said corneal digital images. In a preferred embodiment, a portion of these elements are shared elements including a first objective element of an objective lens combination, a digital image sensor and at least one eyepiece for viewing either the retina or the cornea. Also, preferably, the retinal combination also includes a first changeable element of said objective lens system for focusing, in combination with said first objective element, portions or all of said retinal region at or approximately at a common image plane. Also, preferably, the retinal combination also includes a retinal illuminating light source, an aperture within said frame and positioned within said first combination to form an effective retinal aperture located at or approximately at the lens of the eye defining an effective retinal aperture position, an infrared camera for determining eye position, and an aperture adjustment mechanism for adjusting the effective retinal aperture based on position signals from said infrared camera. Also, preferably, the cornea combination of elements includes a second changeable element of said objective lens system for focusing, in combination with said first objective element, portions or all of said cornea region at or approximately at a common image plane.